

Pressure Transmitter with Display,
Rangeable Wet/Wet Differential

Product Details

The Omega differential PX3005-DIFF is a compact, rangeable, pressure transmitter ideal for monitoring pressures in process automation, hydraulic systems, compressors, pumps, and in tank level applications where consistent, reliable pressure measurement is essential. The PX3005-DIFF utilizes a unique encapsulation construction of a MEMs piezoresistive pressure sensor coupled to an advanced microprocessing to provide superior accuracy and performance.

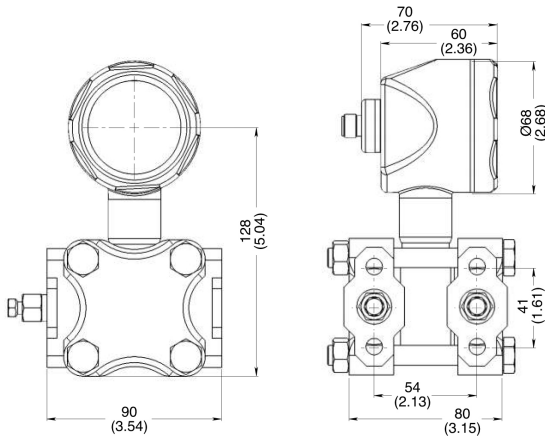
The unique construction enables high line pressure operations and superior protection from pressure overloads. The rugged 316 stainless-steel enclosure is IP67 rated making it suitable for wash down environments. A 5-digit backlit LCD allows for a full precision representation of process variable. Available in ranges from 1 to 1,500 psi, the intelligent transmitter module allows for configuration of the 4 to 20 mA signal, display of input or output, and choice of 19 measurement units. The output signal can be adjusted to re-arrange the transmitter or “tare” unwanted fluid head preloads. Rangeability is capable of adjusting zero and span are from -100 to 100% FS URL (Upper Range Limit) with a minimum span of 30% URL. This means a 15 psi transducer can have the zero set between -15 to FS 15 psi. For example, zero could be set for -15 psi and maximum 15 psi so the output would be 4 mA at -15 psi, midpoint 12 mA would be 0 psi and 20 mA would be 15 psi.

Features

- 0.075% Accuracy
- Linear or Square Root Output
- Adjustable Pulsation Dampening
- LCD Displays Either Process Variable, mA, or %
- Nineteen User Selectable Engineering Units
- IP67 316 SS Enclosure



Product Number	Pressure Range	Pressure Type
PX3005-25WDWBI	-25 to 25 inH2O	Differential
PX3005-160WDWBI	-160 to 160 inH2O	Differential
PX3005-1KWDWBI	-1,000 to 1,000 inH2O	Differential
PX3005-150DWBI	-70 to 150 psi	Differential
PX3005-400DWBI	-70 to 400 psi	Differential
PX3005-1.5KDWBI	-70 to 1,500 psi	Differential



Specifications

Turndown = nominal range of the device / set span of device

EXAMPLE: a PX3005-1KWDWBI with set span of 500"H₂O TD = 1000"H₂O/500"H₂O = 2

Accuracy (NLHR, 20°C ±5°C):

±0.075TD% SPAN
(Square root output accuracy is 1.5 times linear output accuracy)

Long Term Stability:

±0.2% URL/60 months

Ambient Temperature Effects -20 to 80°C (-4 to 176°F):

±(0.1 +0.1TD)% SPAN

Static Pressure Effects:

Effect on zero ±0.15TD % SPAN/10MPa (1450 psi); Effect

Power Supply Effects:

± 0.005TD% SPAN/V (Zero and Span)

Mounting Position Effects:

Install error less than 400Pa (1.60" H₂O) can be corrected by PV = 0 reset

Vibration Effects:

GB/T 1827.3/IEC61298-3 tests, 20g (5 to 2000 HZ, max <±3 mm), <0.1% URL

Supply Voltage:

10.5 to 55VDC

Output Signal:

4 to 20mA Two wire, linear or square root output selectable

Sensor Response Time:

200 mS

Damping Time:

Selectable, 0 to 100 S

Load Resistance Ω:

<(U-10.5)/0.021

Transmission Distance:

< 1000m

Power Consumption:

500mW(20.8mA output @ 24VDC)

Operating Temperature:

-20 to 70°C (-4 to 160°F)

Storage Temperature:

-40 to 85°C (-40 to 185°F)

Media Temperature:

-40 to 120°C (-40 to 250°F)

Environmental Rating:

IP67

Media:

Fluids and gasses compatible with 316 SS

Process Connection/Material:

¼" -18NPT F/316 SS

Electrical Connection:

4 pin male M12

Isolating Diaphragm:

316L SS

Sensor Fill Fluid:

Silicone Oil

Sensor Seal:

O-ring, FKM

Housing Material:

316 SS

Weight:

Net Weight: about 3kg (without mounting bracket and process connection adaptor)

Range Limit Table

Nominal Value		Minimum Span		UPPER (URL)		LOWER (LRL)		Static Pressure Limit		Hi Side Over Range Limit		Lo Side Over Range Limit	
Mbar	"H ₂ O	Mbar	"H ₂ O	Mbar	"H ₂ O	Mbar	"H ₂ O	Bar	Psi	Bar	Psi	Bar	Psi
60	25	0.02	0.8	60	25	-60	-25	250	3600	250	3600	160	2300
400	160	0.04	1.6	400	160	-400	-160	400	5750	250	3600	160	2300
2500	1000	0.25	10	2500	1000	-2500	-1000	400	5750	250	3600	160	2300
Bar	Psi	Bar	Psi	Bar	Psi	Bar	Psi	Bar	Psi	Bar	Psi	Bar	Psi
10	150	0.1	1.5	10	150	-5	-70	400	5750	250	3600	160	2300
30	400	0.3	4	30	400	-5	-70	400	5750	250	3600	160	2300
100	1500	1	15	100	1500	-5	-70	400	5750	250	3600	160	2300